

Application No. 10/764,787
Amendment "B" dated March 29, 2006
Reply to Office Action mailed February 27, 2006

REMARKS

The Office Action mailed February 27, 2006 considered claims 1-14 and 16-23. Claims 18 and 19 were objected to as being substantially duplicates of one another. Claims 1-20 were objected to because of typographical errors. Claim 22 was objected to because of the inclusion of an additional un-intended word. Claims 12-19 were rejected under 35 U.S.C. 101 because the Examiner asserts that they are directed to non-statutory subject matter and they lack utility. Claims 21-23 were rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. Claims 21-23 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1-3, 7-8, 10-11, and 20 were rejected under 35 U.S.C. 103(a) as being unpatentable over *Sander* in view of *Piper* further in view of *Takazawa* (US 5,777,627) hereinafter *Takazawa*. Claim 4 was rejected under 35 U.S.C. 103(a) as unpatentable over *Sander* in view of *Piper* in view of *Takazawa* as applied to claim 1 above, and further in view of *Scola et al* (US 6,714,679 B1) hereinafter *Scola* and *Foley* – as cited in *Piper* 2:20-25. Claims 5-6, 12-15, and 17-18 were rejected under 35 U.S.C. 103(a) as unpatentable over *Sander* in view of *Piper* in view of *Takazawa* as applied to claim 1 above, and further in view of *Martinez et al* (US 5,319,358) hereinafter *Martinez*. Claim 9 was rejected under 35 U.S.C. 103(a) as unpatentable over *Sander* in view of *Piper* in view of *Takazawa* as applied to claims 7 and 8 above, further in view of *Lewis et al* (US 4,696,707) hereinafter *Lewis*. Claim 15 was rejected under 35 U.S.C. 103(a) as unpatentable over *Sander* in view of *Piper* in view of *Takazawa* and *Martinez* as applied to claim 12 above, and further in view of *Scola* and *Foley* – as cited in *Piper* 2:20-25. Claims 18-19 were rejected under 35 U.S.C. 103(a) as unpatentable over *Sander* in view of *Piper* in view of *Takazawa* and *Martinez* as applied to claim 12 above, in further view of *Lewis*. Claims 1-3, 7-8, 10-11, and 20-23 were rejected under 35 USC 103(a) as unpatentable over *Sander* in view of *Piper* and *Corona* (US 6,992,671 B1) hereinafter *Corona*. Claims 12-15 were rejected under 35 USC 103(a) as unpatentable over *Sander*, *Pieper*, and *Corona* as applied to claim 1 above, and further in view of *Martinez*. Claim 9 was rejected under 35 U.S.C. 103(a) as unpatentable over *Sander* in view of *Piper* as applied to claims 7 and 8 above, in further view of *Lewis*. Claim 15 was rejected under 35 U.S.C. 103(a) as unpatentable over *Sander* in view of *Piper*, *Corona*, and *Martinez* as applied to claim 12 above,

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and further in view of *Scola* and *Foley* – as cited in *Piper* 2:20-25. Claims 18 and 19 were rejected under 35 U.S.C. 103(a) as unpatentable over *Sander* in view of *Piper*, *Corona*, and *Martinez* as applied to claim 12 above, further in view of *Lewis*.¹ By this paper claims 1, 12, 20 and 22 have been amended, and claims 1-14 and 16-23 remain pending.

Claim Objections

The Examiner asserts that claims 18 and 19 are substantial duplicates of one another. However, Applicants would like to direct the Examiner's attention to the second to last line of each of claims where it can be seen that claim 18 is directed to distance tolerances and claim 19 is directed to angular tolerances. Applicants therefore, respectfully request that the Examiner withdraw this objection to claims 18 and 19.

The Examiner objected to claims 1-20 because of typographical errors related to the words *extrema* and *extremum*. Applicants would like to point out that *extremum* is singular, and *extrema* is plural. Thus, an *extremum* is proper. No corrections have been made because the applicant was not able, after a thorough review of the claims, to identify any case where improper articles were used.

The Examiner objected to claims 22 because of the extraneous use of the word "can." Applicants thank the Examiner for his careful review of the application and have corrected the offending claim by removing "can."

Claim Rejections

The Examiner rejected claims 12-19 under 35 U.S.C. 101 as not being directed to statutory subject matter and lacking utility. Claim 19 has been amended in a way that should obviate the Examiner's rejection.

Claims 21-23 were rejected under 35 U.S.C. 112, first paragraph as failing to comply with the written description requirement, as apparently failing to provide adequate support. Applicant's traverse this rejection. Claim 21 recites "translating simplified control data into hinting instructions." The description in the specification clearly supports such as claim. In particular, paragraph [0036] of the applicant's disclosure describes how [k]nowledge of the

¹ Although the prior art status of the cited art is not being challenged at this time, Applicants reserve the right to challenge the prior art status of the cited art at any appropriate time, should it arise. Accordingly, any arguments and amendments made herein should not be construed as acquiescing to any prior art status of the cited art.

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identified edges (i.e. control data) can then be translated into hinting instructions...." Similarly, claim 22 recites "using the simplified control data to facilitate recognition of the graphical object," which is clearly supported by paragraph [0037] of the applicants' disclosure, which recites "simplified control data can facilitate recognition of graphical objects." Claim 23 recites "manipulating control points using the recognition such that a better pixilated representation of the graphical object is rendered." This claim is also clearly supported by paragraph [0037] of the applicants' disclosure, which states that "[r]ecognition of the graphical object from the simplified control data can assist object processing modules in appropriately manipulating the control points such that a better pixilated representation of the graphical object is rendered at [a] display device."

Claims 21-23 were also rejected under 35 U.S.C. 112, second paragraph. Specifically, claims 21 was rejected for the extraneous use of the word "can" which has now been removed. Claims 22 and 23 were rejected because the Examiner asserts that 'facilitate recognition' has no art recognized meaning in the specification. Applicants respectfully traverse this rejection. The Examiner's attention is directed to paragraph [0037] of the specification which provides some helpful examples. In particular, paragraph [0037] describes one example where control data facilitates recognition that a graphical object represents an H as illustrated in Figure 1 of the application.

Claims 1 and 20 were rejected under 35 U.S.C. 103(a) as being unpatentable over *Sander* in view of *Piper*, in further view of *Takazawa*. Applicants respectfully submit, however, that a *prima facie* case of obviousness has not yet been established. In particular, the Examiner still has not shown the element of determining that control points ... are on a common edge of a *simplified outline* including when the control points are off of the outline of *the graphical object*. The references cited by the examiner merely illustrate manipulating and removing control points that are off of the outline of the graphical object. These references fail to show using control points that are off of the outline of the *graphical object* to create a common edge of a simplified graphical object representing a *simplified version of the graphical object*, as claimed in combination with the other recited claim elements.

Attention is specifically directed to Figure 6, where the control points used to create curvature in the *graphical object* are used to define a straight line in the *simplified graphical object*. Note that the letter O illustrated in the graphical object has become much boxier by

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including the control points which were off of the outline of the graphical object as part of the common edge on the simplified graphical object. The Examiner's attention is also directed to paragraphs [0057]-[0059] of the Applicants' disclosure. Although this limitation was already present in the claims, Applicants have nonetheless amended independent claims 1 and 20 even further to highlight this feature. It will be appreciated, however, that the claims are distinguished from the art as a whole, not simply because of a single limitation.

As clarified throughout the application, the claimed invention is generally directed to embodiments for providing simplified control data representing a graphical object. In particular, one embodiment can use control points not on the outline of the graphical object to define line segments that are on the outline of the simplified graphical object. For example, claim 1 as amended is directed to a method for simplifying control points and includes identifying a plurality of local extrema on the outline of the graphical object. A plurality of sets of local extrema are identified. Each local extremum in a set of local extrema is on a common edge of the outline of the graphical object. Each set of local extrema includes one or more local extremum from the plurality of identified local extrema. The method further includes determining that control points interspersed between and/or at the local extremum of each set of local extrema are on a common edge of a *simplified outline including when the control points are off of the outline of the graphical object*. Simplified control data is generated that represents an outline of the common edges of a *simplified* graphical object of the graphical object. The simplified control data defines a common edge including straight line segments defined by and through the control points interspersed between and/or at the local extremum including when the control points are off of the outline of the graphical object. Thus, in this example, even when control points are off of the outline of a graphical object, they define a common edge, or the outline, of the simplified graphical object including straight lines through the control points. Claim 20 is similar to claim 1 except that claim 20 claims a computer program product that performs the elements of claim 1.

Claim 12 is directed to a method for determining that a local extremum and control point off of the outline of the graphical object are on a common edge of a simplified outline. The method may be practiced, for example, in a computing system that has access to a set of control points representing an outline of a graphical object. The method includes identifying consecutive local extremum on the outline and a control point off of the outline. The method

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further includes determining that the direction of the outline at both the consecutive local extremum and control point off of the outline is at least a similar direction. It is determined that the local extremum is within a specified tolerance of the control point off of the outline. Finally, simplified control data is generated that represents an outline of common edges of a simplified graphical object of the graphical object, the simplified control data defining a common edge including straight line segments defined by and through control points interspersed between and/or at the local extremum including when the control points are off of the outline of the graphical object.

With regards to claims 1, 12 and 20, the art cited by the Examiner fails to teach what is recited by the elements of these claims. In particular, claims 1 and 20 recite determining that control points interspersed between and/or at the local extremum of each set of local extrema are on a common edge of a *simplified outline including when the control points are off of the outline of the graphical object*, as recited in combination with the other recited claim elements, including the element of generating simplified control data that represents an outline of common edges of a simplified graphical object of the graphical object, wherein the simplified control data defines a common edge including straight line segments defined by and through the control points interspersed between and/or at the local extremum including when the control points are off of the outline of the graphical object. In direct contrast to what is recited in the claims, *Sander* teaches traversing a graphical path, creating a list of points, adding additional points (intermediate points within curved and straight line segments) (*Sander* col. 2, lines 48-55), and creating a new simplified path by removing points (*Sander* col. 3, lines 18-29). Rather than using control points that are not on a common edge of an outline to define a simplified outline, *Sander* teaches creating edges through points that are on the original graphical path.

Piper also fails compensate for the foregoing deficiencies of *Sander* inasmuch as *Piper* teaches storing a reduced number of control points for straight lines segments. *Piper* at Abstract. In other words, *Piper* reduces the number of control points when the control points lie on a part of a straight line segment. See *Piper* at col. 2, lines 28-30. When control points are off of the curve, those control points are stored (See *Piper* at Abstract), however, a new simplified outline is not created that includes the control points off of the curve as being a part of and defining a part of a straight line edge of the simplified outline. The Examiner has pointed to *Piper* at col. 2 lines 40-60 for illustrating that curved line segments have degenerated into straight line

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segments. However, the cited portions of *Piper* merely illustrates tangential control points for straight line segments being removed (i.e. 20, 23, 24, 25 and 28). Noticeably absent is any discussion of the removal of control points for curved segments 21, 22, 26, and 27. Rather for example, at col. 3, lines 51-53 the storage of off outline control points 42 and 44 for curved segment 21 is illustrated. Additionally, there is no discussion in *Piper* of straight line segments of simplified data being through and defined by control points off of the graphical object as is recited by the claims.

Takazawa does not compensate for the deficiencies of *Piper* and *Sander*. Rather, *Takazawa* merely illustrates moving control points for curves to correspond with the movement of straight line segments. See e.g. col. 8, lines 29-32 and col. 13, lines 46-51. Neither the original control points nor new control points that are not on the outline of the original object are used to define straight line edges of a simplified graphical object as is recited by claims of the present application. If the new or old control points happen to fall on the outline of a graphical object, such condition is purely incidental and not used for defining the simplified graphical object as is recited by the claims of the present application.

With regard to *Corona*, the portions cited by the Examiner are descriptions of Bezier curves and the mathematical formulas describing them. *Corona* does not illustrate the Bezier curve control points that are off of the graphical object being used to define straight line segments of the simplified graphical object as is now recited by the claims of the present application.

Scola, *Foley*, *Martinez*, and *Lewis*, each cited to illustrate various features of the dependent claims, do not compensate for the deficiencies of *Sander* and *Piper*.

Furthermore, although the foregoing remarks have been focused primarily on the independent claims, it will be appreciated that all of the rejections and assertions of record with respect to the independent claims, as well as the dependent claims, are now moot, and therefore need not be addressed individually. However, in this regard, it should be appreciated that Applicant does not necessarily acquiesce to any assertions in the previous Office Action that are not specifically addressed above, and hereby reserves the right to challenge those assertions at any appropriate time in the future, should it arise, including any official notice.

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In the event that the Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, the Examiner is requested to contact the undersigned attorney.

Dated this 29 day of March, 2006.

Respectfully submitted,



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